

C2 Compact Headend

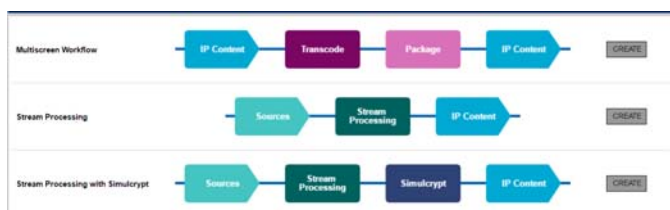


Media organisations needing dense, high quality transcoding to MPEG-2 or MPEG-4 AVC, or dense stream processing, will benefit from MediaKind's powerful C2 Compact Headend platform. Designed for low Total Cost of Ownership (TCO), reduced deployment footprint and low running costs, the C2 Compact Headend platform fits seamlessly into operational centres, offering high resilience operation providing 24/7 operation and in-field maintenance and expansion.

Picture quality for dense video processing CBR, VBR and ABR operations is outstanding, both for traditional broadcast or multiscreen applications. Stream processing density is market leading.

Setup and operation is easy using a logically laid out user interface that allows step by step configuration.

A thermal and power efficient front to back design reduces rack space, power, cooling and weight requirements, providing a high density solution at a very competitive price point, allowing scalability from the most demanding down to all but the most simple applications. Capable of processing up to 2 Gbps of compressed media as standard with 6 media processing slots for expansion.



Next Generation Media Processing Platform Transforms Head-End Efficiency

Powerful image processing

Powered by MediaKind’s second generation in house chip technology, designed to offer an ideal balance of density, picture quality and bandwidth efficiency.

Straightforward Maintenance

Hot-swappable fans, PSUs and option cards, coupled with a cold-swappable main processing host card, offers easy maintainability.

High Density

The next-generation video platform offers market leading stream processing density owing to usage of the latest custom electronics and a high-speed backplane.

Rugged Design

Built for maximum airflow, with two independent cooling channels.



Use-Cases

Video Processing

Up to 24 high quality HD services are available in a power and space efficient 2 ‘RU’ unit, offering transcoding from MPEG-2 and MPEG-4 AVC to MPEG-2 or MPEG-4 AVC. For broadcast applications outputs can be CBR, or statistically multiplexed together within the single unit, effectively providing a ‘head-end in a box’.

Multiscreen ABR applications are also supported, generating a compelling mix of high resolution profiles for delivery across large to small screens, with up to 10 profiles per service providing market leading ABR density and low power consumption.

Stream Processing

As well as simple re-multiplexing and network adaption advanced stream processing is supported, such as component insertion or removal, PID re-mapping, and descriptor insertion. Up to 2 Gbps of transport stream processing for emission over 300 transport streams and services is available now.

Content Protection

MediaKind’s C2 Compact Headend platform allows operators to perform DVB-CSA scrambling at market-leading densities. Capable of scrambling 2Gbps of content across multiple networks using industry standard content protection, including:

- DVB-CSA v1 (48bit) scrambling
- DVB-CSA v2 (64bit) scrambling

Base Unit Features

Base Chassis Functionality

- MediaKind’s optimized front-to-back cooled chassis
- 2Gbps of throughput, 16,384 PIDs across 300 transport streams and services
- Multiple native 10Gbit/s electrical and optical connectivity
- High resolution front panel display with OLED and touch sensitive controls
- Hot-swappable fans, PSUs and option cards



C2 Compact Headend Rear Panel

Hardware Options

Base Unit

AVP/2RU/BAS/AC/1600

- 2RU Base Unit, including enclosure, fans and host processing card and single AC PSU
- 6 option module slots

Additional Power Supply Units

AVP/2RU/HWO/AC/1600

- Single AC PSU
- Provides dual or redundant PSU operation

Spare Parts

AVP2/HWS/STD/FAN

- Field replaceable fan unit

AVP2/2RU/UPH/AC/1600

- Field replaceable PSU

AVP2/HWS/STD/HOST

- Field replaceable host card

Option Modules

ASI I/O Module

AVP2/HWO/ASI/IO

- 6 x programmable bi-directional ASI ports per card
- Maximum quantity 6 Modules



16 SDI Input Module

AVP2/HWO/16SDI

- 3G/HD/SD-SDI serial digital video
- 16 SD SDI input ports or 8 HD SDI Inputs per card
- Maximum quantity 3 Modules



Media Processing Module

AVP2/HWO/EI9201

- Provides video and audio transcoding capability
- Maximum quantity 6 Modules (depending on input voltage)

Input

SDI input (via 16 SDI Input Module)

MPEG-2 TS, (MPTS & SPTS) over IP

Video Components: HD MPEG-2 or MPEG-4 AVC 4:2:2 or 4:2:0

Audio Components: MPEG-1 LII, Dolby Digital (AC-3)

Video Encoding

4 HD services per card (encode or transcode) or 12 SD transcodes or

16 SD encodes per card

MPEG-2 or MPEG-4 AVC

CBR or VBR (internal statistical multiplexing)

ABR: up to 10 profiles per service

Audio Encoding

Up to 32 audio services per card

Codec: MPEG-1 LII, Dolby Digital (AC-3), AAC, HE-AAC

Ancillary Data

Closed captions

SCTE-35 pass through



License Options

Output Bandwidth

AVP2/SWO/BWIDTH

Provides an additional 1 Gbps of output bandwidth. A single instance of this license is included with every base unit. One additional license can be added to increase the available output bandwidth to 2 Gbps.

DVB-CSA Scrambling

AVP2/SWO/DVBCA/50

Enables DVB-CSA V1 or V2 scrambling of up to 50 services. Additional licenses can be added up to a maximum of 6 today, i.e. 300 scrambled services.

ABR HD Transcoding

AVP2/SWO/VP/ABR/HD

Requires a Media Processing module AVP2/HWO/EI9201. Maximum 4 ABR HD licenses per Media Processing module.

Enables the generation of up to 10 ABR profiles from a single HD input source. Also enables 4 stereo pairs of MPEG-1 LII audio decode, 4 stereo pairs of AAC audio decode.

ABR SD Transcoding

AVP2/SWO/VP/ABR/SD

Requires a Media Processing module AVP2/HWO/EI9201. Maximum 12 ABR SD licenses per Media Processing module.

Enables the generation of up to 6 ABR profiles from a single SD input source. Also enables 4 stereo pairs of MPEG-1 LII audio decode, 4 stereo pairs of AAC audio decode.

HD Encoding/Transcoding

AVP2/SWO/VP/HD

Requires a Media Processing module AVP2/HWO/EI9201. Maximum 4 HD licenses per Media Processing module.

Enables the transcoding of a single HD input, MPEG-2 or MPEG-4 AVC, 4:2:0 or 4:2:2 to a single HD output, MPEG-2 or MPEG-4 AVC 4:2:0. Also enables 4 stereo pairs of MPEG-1 LII audio decode and re-encode.

SD Encoding/Transcoding

AVP2/SWO/VP/HD

Requires a Media Processing module AVP2/HWO/EI9201. Maximum 12 SD licenses per Media Processing module.

Enables the transcoding of a single SD input, MPEG-2 or MPEG-4 AVC, 4:2:0 or 4:2:2 to a single HD output, MPEG-2 or MPEG-4 AVC 4:2:0. Also enables 2 stereo pairs of MPEG-1 LII audio decode and re-encode.

Additional audio processing licences:

AVP2/SWO/M1L2

Enables one stereo pair of MPEG-1 Layer II encode. Requires a Media Processing module AVP2/HWO/EI9201. Each Media Processing module can perform up to 32 MPEG-1 Layer II stereo encodes.

AVP2/SWO/AAC

Enables one stereo pair of AAC encode. Requires a Media Processing module AVP2/HWO/EI9201. Each Media Processing module can perform up to 32 AAC stereo encodes.

AVP2/SWO/DOLBY*

Enables one stereo pair of Dolby Digital or Dolby Digital Plus encode. Requires a Media Processing module AVP2/HWO/EI9201. Each Media Processing module can perform up to 32 Dolby Digital or Dolby Digital Plus stereo encodes. (3 licenses needed for 5.1)

AVP2/SWO/DOLBY/DEC*

Dolby Digital or Dolby Digital Plus 2,0 decode. (3 licenses needed for 5.1)

AVP/SWO/MEZZ/DEC*

Enables MPEG-4 AVC 4:2:2 10-bit mezzanine decode. This requires an associated license to be present (AVP2/SWO/VP/ABR/HD or AVP2/SWO/VP/ABR/SD or AVP2/SWO/VP/HD or AVP2/SWO/VP/SD)

*Please contact MediaKind for availability

Specifications

Base Chassis

Management	2x Ethernet (100/1000BASE-T) SNMP v1/v2 for alarm traps User management via stand alone web browser IP v4 IGMP v1/v2/v3
Input / Output Interfacing Data Interface	4x I/O ports, arranged as 2 pairs for data input and/or output Pair 1: 2 x 10GigE (10GBASE-SR/LR) on SFP+ or 2 x 10GigE/1GigE (10GBASE-T / 1000BASE-T) on RJ45 Pair 2: 2 x 10GigE / 1GigE (10GBASE-T / 1000BASE-T) on RJ45 Each pair individually configurable as input, output or bi-directional Each pair individually configurable to work standalone or as a redundant pair
Content Protection	2x Ethernet (100/1000BASE-T) standalone or as a redundant pair
ASI Input/Output	6 ASI inputs per ASI I/O Module each individually configurable to be an input or an output. Up to 6 modules can be fitted.
SDI Input	16 SD SDI Inputs or 8 HD SDI Inputs per Module Up to 3 modules can be fitted.

Stream Processing

Stream Processing	Service re-multiplexing Component re-multiplexing PID remapping PID replication (up to 32) PID monitoring MPTS and SPTS support Multicast to unicast conversion
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Content Protection

Content Protection	DVB-CSA v1 (48 bit) scrambling DVB-CSA v2 (64 bit) scrambling Up to 300 scrambled services Up to 2 Gbps scrambled components
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Encoding/Transcoding

Encoding/Transcoding	Requires EI9201 Media Processing Module. Up to 6 per chassis.
Input	SDI input (via 16 SDI input module) MPEG-2 transport stream (MPTS & SPTS) Video: HD MPEG-2 or MPEG-4 AVC 4:2:2 or 4:2:0 Audio MPEG-1 LII or Dolby Digital (AC-3)
Video Encoding	HD Services per card MPEG-2 or MPEG-4 AVC CBR or VBR (internal statistical multiplexing) ABR: up to 10 profiles per service
Audio Encoding	Up to 32 audio services per card Codec: MPEG-1 LII, Dolby Digital (AC-3), Dolby Digital Plus (E-AC3), AAC, HE-AAC
Ancillary Data	Closed captions SCTE-35 pass through

Physical and Power

Dimensions (W x H x D)	Including handles and end feet 43.6 x 8.61 x 69.50 cm (17.16 x 3.39 x 27.36 inches)
Weight	13.3 kg (29.3 lbs) with a dual AC PSU 20 kg (44lbs) with a dual AC PSU and 6 x Media Processing Modules AVP2/HWO/EI9201
Input Voltage	100V AC to 240V AC, 50/60 Hz 100V AC to 200V AC, 50/60 Hz Maximum QTY of AVP2/HWO/EI9201 = 2 200V AC to 240V AC, 50/60 Hz Maximum QTY of AVP2/HWO/EI9201 = 6
Power Consumption	Max power 355W with a dual AC PSU Max power 1,600W (typical 870W) with a dual AC PSU and 6 x Media Processing Modules AVP2/HWO/EI9201

Environmental Conditions

Operating Temperature	-10°C to +50°C (14°F to 122°F) 0°C to +45°C (14°F to 113°F) with Media Processing Modules AVP2/HWO/EI9201
Storage Temperature	-40°C to +85°C (-40°F to 185°F)
Relative Operating Humidity	10% to 90% (non-condensing)

Compliance

Compliance	CE marked in accordance with EU Low Voltage and EMC Directives EMC Compliance EN55022, EN55024, AS/NZS3548, EN61000-3-2, EN61000-3-3 and FCC CFR47 Part 15B Class A Safety Compliance EN60950-1, IE60950-1, UL60950-1 and NRTL listed
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